



Nebraska Resources

Newsletter

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Agency Numbers to Remember

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Editor's Note: To promote a better understanding of the programs and responsibilities of the Nebraska Department of Natural Resources this issue and future issues of the newsletter will highlight the Department divisions. This issue highlights the **Floodplain Management/Dam Safety/Survey Division**.

Settlement to the Nebraska v. Wyoming Lawsuit Approved

The details to the settlement of the Nebraska v. Wyoming Lawsuit, originally filed in 1986, were released on Thursday, March 15, 2001 at a news conference held by Governor Mike Johanns. "The issues in the lawsuit and settlement are complex. After carefully considering input from those most affected by the settlement and very careful attention and deliberation, we decided approval of the settlement agreement was in the best interest of Nebraska," said Governor Johanns.



Roger K. Patterson, Director of the Department of Natural Resources, explains provisions of the settlement at the March 15, 2001 news conference.

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The Floodplain Management/Dam Safety/Survey Division

by Brian Dunnigan

The merger of the Natural Resources Commission and the Department of Water Resources provided the opportunity to bring together two closely aligned sections – Floodplain Management and Dam Safety – under one division. These two sections combined with Photogrammetry and Survey make up the Division.

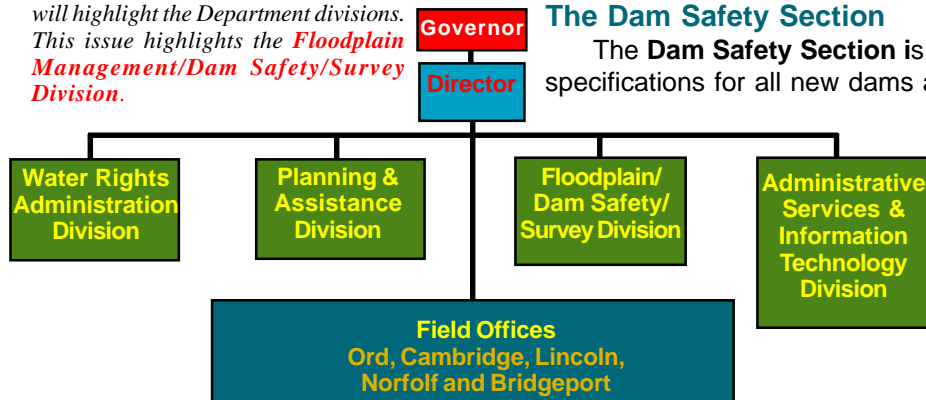


The Dam Safety Section

The **Dam Safety Section** is primarily responsible for reviewing plans and specifications for all new dams and conducting safety inspections of existing dams. The section also tracks construction activities and performs periodic inspections during construction.

Other activities include reviewing emergency action plans; preparing safety inspection schedules; maintaining a database of technical data on dams for inclusion into the National Inventory of Dams;

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Settlement to the Nebraska v. Wyoming Lawsuit Approved Continued from page 1

The following are provisions of the settlement:

Settlement Provisions

Colorado State Line to Guernsey Reservoir

- Limit on Irrigated Acres - 226,000 acres
- Limit on Consumptive Use - 217,000 acre-feet per year
(128,000 acre-feet per year above Pathfinder - 89,000 acre-feet per year
Pathfinder to Guernsey)
- Automatic Water Regulation in Drought Years

Laramie River

- Limit on Irrigated Acres - 39,000 acres (not including the Wheatland Irrigation District)
- Addresses Operation of Grayrocks Reservoir
- Prevents Construction of Corn Creek Irrigation District
- Retires Goshen Pumping Plant and Transfers Water Rights to North Platte River

*Note: Upper Laramie down to and including Wheatland Irrigation District
Covered by the 1922 Colorado Wyoming Decree*

Whalen Dam to Wyoming/Nebraska State Line

- Existing Wells
 - Wyoming Must Cease Pumping or Replace Depletions Resulting From Ground Water Pumping if Flow is Needed to Meet Irrigation Demand
- New Wells
 - Wyoming Must Cease Pumping or Replace All Year Around Depletions
- Wyoming Diversions From Tributaries and Drains Must be Charged Against Their 25% Share

General Provisions

- The Historic Operation of Glendo Reservoir is Preserved
- Data Required on Diversions, Pumping, Permitting and Consumptive Use
- North Platte Decree Committee Created
 - Parties-Nebraska-Wyoming-Colorado-United States
 - Collect Data, Conduct Studies, Resolve Disputes
- Recourse to the Court is Preserved in the Event of Future Disputes

The original lawsuit was filed in 1986 to stop the development of new water uses on the North Platte River and its tributaries and to protect Nebraska's right to water for the Inland Lakes for irrigation and other purposes. In 1993, the U.S. Supreme Court ruled that Nebraska's rights to store 46,000-acre feet of water annually in the Inland Lakes and use that water for irrigation are legally protected. In addition, Nebraska successfully defeated Wyoming's claim to reapportion the river and change the U.S. Supreme Court's 1945 Decree. The 1945 Decree apportions the water in the lower portion of the North Platte River in Wyoming 75% to Nebraska and 25% to Wyoming. Finally, Nebraska defeated Wyoming's claim that the quantity of water diverted by irrigation canals in Nebraska was limited by beneficial consumptive use. A University of Nebraska economist has valued these victories as being worth \$20,000,000 a year in perpetuity for the State of Nebraska. In 1995 Nebraska amended the lawsuit to stop further depletion of river flow caused by increasing consumptive use in Wyoming.

The Settlement provides protections for Nebraska that had been hoped to get at trial. The Modified Decree includes new injunctions on Wyoming that plug the holes in the existing decree while preserving the critical apportionment of natural flow, 75% to Nebraska, 25% to Wyoming, that is the foundation of the original 1945 decree. The Settlement also includes over 100 pages of detailed procedures for water use regulation, measurement, accounting and reporting that, along with the injunctions in the Modified Decree and other provisions in the Settlement Stipulation, insure that Nebraskans get the water to which we are entitled.

North Platte River Reach



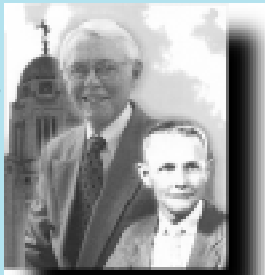
The 100 plus pages of Settlement details and additional information is available at the agency's homepage site at <http://www.dnr.state.ne.us> under North Platte River Settlement.

Dayle E. Williamson Retires

After 43 years of service to the State of Nebraska and the well-being of Nebraska's natural resources, Dayle E. Williamson retired from state government on March 30, 2001. Dayle began his career in the field of natural resources in August 1958 with the then Soil and Water Conservation Commission. In September of 1972 he became the Executive Director and later the Director of Natural Resources for the Nebraska Natural Resources Commission. With the merger of the Natural Resources Commission and the Department of Water Resources into a Department of Natural Resources, Dayle became the Special Assistant to the Director in July of 2000 until his retirement March 30, 2001.

During Dayle's career in State Government he worked with 7 Governors. Over the years he received numerous state and national awards and honors for his leadership skills and foresight in natural resources and related areas.

Dayle's leadership, optimistic views, energy and radiant glow will be missed in State Government. His friendship, thoughtfulness, and compassion will be missed by his fellow employees. The Department, the Natural Resources Commission and all his friends wish him the best in retirement and thank him for all that he gave.



Shorts

NRC Selects Officers

At its January 24, 2001 Commission meeting Leroy Pieper of Mitchell was elected as Chairperson to the Commission for the coming year and Joseph Hergott of Hebron was elected as Vice-Chairperson.

Correction- In the Winter issue of the Nebraska Resources, the heading on a article about the retirement of Norma Sitzman incorrectly spelled her name. We apologize for the mistake and wish Norma the best in retirement.

Commission Acts on NRDF Projects

by Tom Pesek

At its March 8, 2001, meeting, the Natural Resources Commission took action on **two project proposals** that had been submitted for Nebraska Resources Development Fund assistance. The Commission followed the recommendation of Roger Patterson, Director of Natural Resources, on both projects.

The Commission advised the Lower Platte South NRD, sponsor of the **Antelope Creek Flood Control Project**, that it may proceed with preparation of an application and feasibility report for this project in Lincoln. The project primarily consists of the construction of a new flood water conveyance channel from 22nd and J Streets to the confluence of Antelope Creek with Salt Creek on the Nebraska State Fair Park grounds, a 2.3 mile recreation trail, and bridge improvement work. The NRD has requested a Resources Development Fund grant of \$7,500,000 for this project which would be constructed over a period of seven years.

The Commission recommended that the Central Platte NRD and the City of Grand Island **not proceed at this time with preparation of an application and feasibility report for the Platte River Flow Enhancement Project**. The proposed project would involve the installation of several wells in the northwestern and southeastern parts of Grand Island to alleviate high water table problems. The pumped water would be conveyed to the Platte River for instream fish and wildlife purposes. The sponsors had requested a Resources Development Fund grant of \$10,134,000 for the project.

The Commission noted that groundwater dewatering is not an eligible purpose under the NRDF Statutes, Rules and Regulations or Commission-adopted policy. The provision of conveying water to the Platte River could possibly be eligible for NRDF assistance; however, completion of the COHYST Study and the Platte River Cooperative Agreement will be necessary before that determination can be made. As a result, the Commission determined that state funding assistance for this proposed project, or any similar project, is premature at this time.

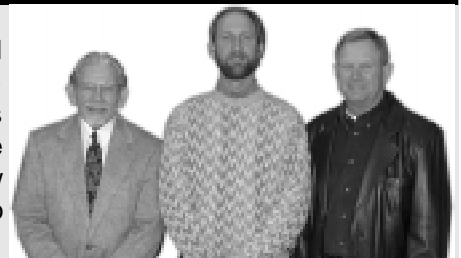
New Members Selected

Six river basin caucuses were held across the state in January to select members of the Nebraska Natural Resources Commission. The caucuses resulted in the selection of four incumbents and two new members. All new members were selected to four-year terms.

The two new members are Garry Anderson, a Dixon County farmer representing the Elkhorn River Basin and Arlond Garratt, a retired Division Manager for Central Nebraska Public Power and Irrigation District representing the Middle Platte River Basin.

Incumbents selected to four year terms were Joseph Hergott, representing the Little Blue River Basin, LeRoy Pieper, representing the North Platte River Basin, Donald Roberts, representing the Republican River Basin and Wayne Davis, representing the Niobrara-White-Hat River Basin. Commission members have responsibilities in the obligation and administration of several state funds used to conserve, protect and develop the states' natural resources.

Clint Johannes, was selected at a Lower Platte River Basin caucus in October to complete the term left vacant when Dale Watermeier passed away last year, his term will run until January 2003.



Pictured from left to right are new Commission members Arlond Garratt, Garry Anderson and Clint Johannes.

Hazard Classification of Dams

High hazard: A dam located where failure may cause loss of life, or serious damage to homes, normally occupied industrial and commercial buildings, important public utilities, main highways, or major railroads.

Significant hazard: A dam located in areas where failure may damage isolated homes, occasionally occupied buildings, main highways, minor railroads or interrupt public utility use or service.

Low-hazard: A dam located in areas where failure may damage normally unoccupied buildings, undeveloped

and evaluating dams with respect to departmental jurisdiction, hazard classification and hydraulic capacity.

A **jurisdictional dam** is a dam that meets one or more of the following criteria:

1. A dam height of 25 feet or more as measured from the top of the dam to the lowest point along the downstream toe.
2. A maximum storage capacity of 50 acre-feet or more below the top of the dam.
3. A normal storage capacity of 15 acre-feet or more below the lowest uncontrolled spillway opening.
4. A hazard classification of "high" or "significant".
5. Use of reservoir water for irrigation.

There are currently 2,108 jurisdictional dams in the state's inventory. Of this total, 99 are high hazard, 245 are significant hazard, and 1,764 are low hazard. The standard safety inspection schedule is annually for high hazard dams, every three years for significant hazard dams, and every five years for low hazard dams.

The Dam Safety Section is currently investigating the feasibility of purchasing a remote-controlled video camera to aid with the inspection of pipes in dams.

The Floodplain Management Section

The **Floodplain Management Section** is **responsible for coordinating an overall program aimed at addressing the wise use of land subject to flooding.**

This is accomplished by providing technical assistance on floodplain management to communities, state agencies, federal agencies, and the public; identifying and delineating floodplains and floodways; providing state coordination for the National Flood Insurance Program (NFIP); and providing technical assistance and funding to communities for the development of local flood hazard mitigation plans.

Technical assistance provided by the section consists of providing 1% frequency flood determinations; floodplain development project reviews; local floodplain management ordinance reviews; engineering assistance for floodplain development; and flood zone determinations for real estate agents, insurance agents, and lenders.

1% frequency flood: a flood that has a 1% chance of being equaled or exceeded in magnitude any given year. Commonly referred to as the 100-year flood.

Since 1996, the Floodplain Management Section has maintained an interactive database for reporting ice conditions on major streams and rivers in eastern Nebraska. The information collected annually in January, February, and March is used by the Nebraska Emergency Management Agency and others to monitor ice conditions and is available on the Web at: <http://nrcnt2.nrc.state.ne.us/cgi-win/icejam97.exe>

The Floodplain Management Section has developed floodplain mapping pro-

cesses that utilize the power of Geographic Information Systems (GIS) and products such as the Digital Elevation Models (DEMs) and Digital Orthophoto Quadrangles (DOQs) to accelerate the production of flood-prone area maps.

These maps are produced in a fraction of the time and at a fraction of the cost of traditional floodplain maps. As a FEMA Cooperating Technical Partner (CTP), the Section has produced countywide floodplain mapping for Stanton County, Dundy County, and Howard County. Map-

ping for Otoe County is expected to be completed by June 1, 2001. FEMA has recognized this effort as one of the outstanding CTP initiatives in the nation.

The Floodplain Management Section's library serves as the state repository for flood information. Included in this library are the FEMA Flood Insurance Studies and Flood Insurance Rate Maps. The Section also maintains a web page (<http://www.nrc.state.ne.us/floodplain/floodplain.html>) that provides lists of information, forms, guidance, and links to agencies and publications related to floodplain management issues.

There are currently 316 communities in Nebraska, including the unincorporated areas of 47 counties, participating in the NFIP. Communities participating in the NFIP have the responsibility to adopt and enforce floodplain management ordinances at the local level to ensure that new development in the floodplain is properly regulated. Unfortunately, for a variety of reasons, community officials often have very little knowledge of the NFIP and their ordinance requirements. It therefore becomes necessary for the Floodplain Management Section to assist communities with ordinance interpretation and compliance with state and federal minimum standards for floodplain management.

The Department of Natural Resources is the lead agency for the Flood Mitigation Assistance (FMA) program. Under FMA, FEMA provides assistance to

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Floodplain Management/Dam Safety/Survey Division Continued from page 4

States and communities for activities that will reduce the risk of flood damage to structures insurable under the NFIP. Although FMA is a federal program, it is administered by the state and is funded with 75% federal and 25% non-federal money. States and communities can receive grants for flood mitigation planning, technical assistance, and mitigation projects. Nebraska receives approximately \$12,200 for planning, \$12,500 for technical assistance, and \$115,000 for mitigation projects annually. In addition to these FEMA funds, the Department has secured over \$600,000 from the Nebraska Emergency Management Agency and the Department of Economic Development for flood mitigation planning. The *State of Nebraska Community Flood Mitigation Planning Guidebook* leads communities through the steps of developing a successful flood mitigation plan. The completion of a mitigation plan then qualifies the community or county for FMA project funds.

Photogrammetry and Survey Section

The **Photogrammetry and Survey Section** supports the mapping and sur-

vey activities of the agency, Natural Resources Districts, the Natural Resources Conservation Service, the

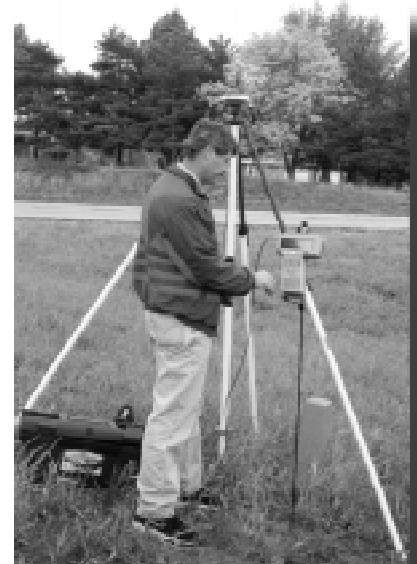


Corps of Engineers, and other partners by providing a variety of services. The Section uses state-of-the-art equipment including electronic theodolites and data collectors, Global Positioning System (GPS) receivers, and a digital "Softcopy" photogrammetric workstation.

Typical projects for photogrammetry and survey include collecting topographic data; producing digital orthophotographs; delineating 1% frequency floodplains; mapping dam sites; providing photogrammetric ground control; collecting hydraulic cross-section data for modeling; and establishing precise location information for irrigation wells

The capabilities of the Section also provide support for the Dam Safety Section in determining hazard classifications and breach routings as well as determining if structures should be included in the Dams Inventory.

The Photogrammetry and Survey Section maintains an automated database of benchmark information as well as maps identifying the location of the benchmarks.



Scott Ferguson with the DNR Photogrammetry and Survey Section operates a GPS receiver.

Work Progressing on Carbon Sequestration Related Reports

by Steve Gaul

Storage of carbon in the soil has been identified as one of the strategies that can assist in reducing increases in greenhouse gas levels and help address global warming issues. In its 2000 session the Nebraska Unicameral passed LB 957, directing the Nebraska Director of Natural Resources to prepare two reports relating to carbon sequestration. A report assessing Nebraska agricultural lands for past carbon sequestration and future sequestration potential is due by January 1, 2002. A report on potential policy and administrative aspects of carbon sequestration and agriculturally related greenhouse gas emissions is due December 1, 2001.

Governor Johanns appointed a 14 member Carbon Sequestration Advisory Committee to advise and assist the Di-

rector in report preparation. Legislation also charges the committee with recommending policies or programs relating to agricultural landowner participation in carbon trading. In addition the committee is also to identify and recommend areas of research as well as encourage the production of educational and advisory material.

To date there have been three advisory committee meetings and agreements have been reached for outside entities to work on both the assessment and the policy/administrative report. The USDA Natural Resources Conservation Service has compiled state level soil carbon data and is analyzing and modeling data using common conservation practices for Nebraska. A second phase of the NRCS study is to develop a county level soil carbon database and farm level prediction tool. There is not yet a for-

mal agreement on that phase of the assessment, although NRCS has completed some work in pilot counties. Funding for the overall study is in part dependent upon receipt of a Nebraska Environmental Trust Grant.

An agreement has also been reached with the University of Nebraska Public Policy Center to complete sections of the policy/administrative study. Those sections will deal with the legal framework, administrative approaches, market systems, and framework for alternatives.

Since most of the alternatives for soil carbon sequestration also entail implementation of conservation practices, they represent multi-faceted opportunities for Nebraska. The completed reports should both supply requested information to legislators and inventory information to allow quick action should legal changes result in a market for carbon credits or other incentives for agricultural landowners.

Comments and or suggestions are welcome

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State of Nebraska

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Nebraska

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Roger K. Patterson, Director

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....dedicated to the long-term management, proper utilization and planning of Nebraska's land and water resources.